

**VPM's**  
**DR VN BRIMS, Thane**  
**Programme: MMS (2018-20) (Finance)**  
**Third Semester Examination October 2019**

<b>Subject</b>	<b>Security Analysis &amp; Portfolio Management</b>		
<b>Roll No.</b>		<b>Marks</b>	<b>60 Marks</b>
<b>Total No. of Questions</b>	<b>7</b>	<b>Duration</b>	<b>3 Hours</b>
<b>Total No. of printed pages</b>	<b>2</b>	<b>Date</b>	<b>24.10.2019</b>

	<p><b>Instructions:-</b></p> <ul style="list-style-type: none"> <li>• <b>Q. No 1</b> is compulsory.</li> <li>• Attempt <b>Any Four</b> from the Remaining Six Questions.</li> <li>• Figures to the right indicate marks in full.</li> </ul>	<b>Marks</b>						
<b>Q. 1</b>	Case/Case-let Study (500-800 words)	<b>20</b>						
	<p>Mr. Park Ji Yong is working as a Portfolio Manager at Vega Investment Advisors, having headquarters at Seoul, South Korea. He is considered as one of the brightest minds in his organization and he is always asked to conduct sessions for new investors to educate them about the portfolio management &amp; its importance.</p> <p>Recently, Mr. Park concluded one of such sessions and one of the persons from the audience Mr. Shin asked Mr. Park the following question “How does correlation between the assets combined in the portfolio affect the risk of our portfolio?”</p> <p>Mr. Park in his reply, decided to design an example, he said “Let’s consider the following scenario. I have two stocks A &amp; B. The Weight of stock A in the portfolio is 0.4 and that of stock B is 0.6. The risks of stocks are as follows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Stock</th> <th>Standard Deviation (Risk)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>4%</td> </tr> <tr> <td>B</td> <td>16%</td> </tr> </tbody> </table> <p>Let’s assume the correlation coefficient (r) between the 2 stocks is: (consider 3 cases separately)</p> <p>i) 0  ii) 0.5  iii) -0.5</p> <p>Now we will calculate the portfolio risk under all the above 3 cases differently and analyze the outcomes”</p> <p><b>a)</b> Mr. Park was about to calculate the answers but he suddenly got a call from CEO and had to leave the session urgently. While going he asked you, being his assistant, to solve the question raised above. <b>[15 Marks]</b></p> <p><b>b)</b> He also insisted that you must explain your observations on the calculation of portfolio risks &amp; the impact of correlation coefficient on the portfolio risk to Mr. Shin so that he understands it well. <b>[5 Marks]</b></p>	Stock	Standard Deviation (Risk)	A	4%	B	16%	
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A	4%							
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<b>Q. 2</b>	Answer <b>Any two</b> from the following.	<b>5x2 = 10</b>						
	<b>a.</b> What do you understand by Investment Grade Bonds & High Yield Bonds?							
	<b>b.</b> Draw a diagram of Inverse Head & Shoulders pattern & briefly explain it							
	<b>c.</b> List down the objectives & constraints of an investor? What is the difference between Tactical Asset Allocation & Strategic Asset Allocation?							
<b>Q. 3</b>	Answer <b>Any two</b> from the following.	<b>5x2= 10</b>						
	<b>a.</b> Explain the differences between a stock exchange & OTC.							
	<b>b.</b> Distinguish between Fundamental Analysis & Technical Analysis							
	<b>c.</b> Briefly explain the methods for index calculation.							
<b>Q. 4</b>	Answer <b>Any two</b> from the following.	<b>5x2 = 10</b>						
	<b>a.</b> Explain the term structure of yield curve with the help of the different types of							

	yield curves.																					
	<b>b.</b> What are the different forms of embedded options with respect to a bond?																					
	<b>c.</b> Briefly explain the differences between CAPM & the Arbitrage Pricing Theory.																					
<b>Q. 5</b>	Answer <b>Any two</b> from the following.	<b>5x2 = 10</b>																				
	<b>a.</b> If the Average (actual) return on the stock is 10%, its beta is 0.8 & risk free rate is 4%. If the return from market is 15% calculate Jensen's alpha and state whether the stock is undervalued or overvalued?																					
	<b>b.</b> Calculate the expected rate of return as per CAPM & draw SML to identify Undervalued/Overvalued securities Return on government's risk-less security is 5%																					
	<table border="1"> <thead> <tr> <th>Security</th> <th>Beta</th> <th>Average Return</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>1</td> <td>11 %</td> </tr> <tr> <td>B</td> <td>1.5</td> <td>4 %</td> </tr> <tr> <td>C</td> <td>2</td> <td>17 %</td> </tr> <tr> <td>Nifty (Market Portfolio)</td> <td>1</td> <td>10 %</td> </tr> </tbody> </table>	Security	Beta	Average Return	A	1	11 %	B	1.5	4 %	C	2	17 %	Nifty (Market Portfolio)	1	10 %						
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	<b>c.</b> Calculate the present value & Macaulay's duration of a government bond with a face value of Rs.100, YTM =8%, maturity=2 years & coupon=7%.(use semi-annual compounding)																					
<b>Q. 6</b>	Answer <b>Any two</b> from the following.	<b>5x2 = 10</b>																				
	<b>a.</b> Write a short note on Total Risk & its classification into Systematic & Unsystematic																					
	<b>b.</b> Standard deviation of a market is 13%, standard deviation of RIL is 20% & correlation coefficient between the stock and the market is 0.6. Estimate beta of the stock.																					
	<b>c.</b> Calculate portfolio return & portfolio beta from the following data																					
	<table border="1"> <thead> <tr> <th>Stock</th> <th>E (R)</th> <th>Beta</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>-5%</td> <td>0.2</td> </tr> <tr> <td>Y</td> <td>20%</td> <td>1.4</td> </tr> <tr> <td>Z</td> <td>12%</td> <td>0.6</td> </tr> </tbody> </table> <p>You may assume that the weight of securities x, y &amp; z in the portfolio are 0.3, 0.1 &amp; 0.6 respectively.</p>	Stock	E (R)	Beta	X	-5%	0.2	Y	20%	1.4	Z	12%	0.6									
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<b>Q. 7</b>	Answer <b>Any two</b> from the following	<b>5x2 = 10</b>																				
	<b>a.</b> Calculate the co-variance, coefficient correlation, Beta of DLF :																					
	<table border="1"> <thead> <tr> <th>Year</th> <th>DLF</th> <th>SENSEX</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>18%</td> <td>12%</td> </tr> <tr> <td>2</td> <td>-2%</td> <td>0%</td> </tr> <tr> <td>3</td> <td>13%</td> <td>18%</td> </tr> <tr> <td>4</td> <td>-2%</td> <td>-5%</td> </tr> <tr> <td>5</td> <td>8%</td> <td>8%</td> </tr> </tbody> </table>	Year	DLF	SENSEX	1	18%	12%	2	-2%	0%	3	13%	18%	4	-2%	-5%	5	8%	8%			
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	<b>b.</b> Calculate the Sharpe ratio, Treynor ratio & M-squared measure from the following information & comment which security is better																					
	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>Sensex</th> </tr> </thead> <tbody> <tr> <td>E (Rp)</td> <td>15 %</td> <td>20 %</td> <td>12%</td> </tr> <tr> <td><math>\sigma_p</math></td> <td>10 %</td> <td>12 %</td> <td>8%</td> </tr> <tr> <td>Bp</td> <td>1.2</td> <td>1.8</td> <td>1</td> </tr> <tr> <td>Rf</td> <td colspan="3">6%</td> </tr> </tbody> </table>		A	B	Sensex	E (Rp)	15 %	20 %	12%	$\sigma_p$	10 %	12 %	8%	Bp	1.2	1.8	1	Rf	6%			
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	<b>c.</b> Calculate the annualized yield on a 91 day commercial paper with face value of Rs.100 issued at a discount of 3.0% on the face value																					